

WHAT IS CLAIMED IS:

1. An Internet protocol-private branch exchange having
an instant messenger function, the Internet protocol-private
5 branch exchange comprising:

a private branch exchange unit for performing
transmission/reception of voice and data among an office
line telephone, an extension telephone, a computer and a
wired/wireless Internet terminal after being connected to a
10 public switched telephone network, an extension network and
an Internet protocol network;

a messenger server unit for transmitting/receiving an
instant message, a file and an e-mail by using instant
messenger software executed in the computer and/or the
15 wired/wireless Internet terminal after being connected to
the computer and the wired/wireless Internet terminal, and
providing and managing at least one of the functions of
providing information for current status, position or
address book of connected users and notifying reception of
20 the e-mail by executing the instant messenger software; and

a central controller for providing an inter-working
function between the PBX unit and the messenger server unit,
and temporarily holding provision of an instant messenger
service and controlling a voice communication service to be
25 provided between communication terminals requiring voice
communication when a voice communication service request
signal is received through the instant messenger software

while the instant messenger service is being provided through the messenger server unit.

2. The Internet protocol-private branch exchange as
5 claimed in claim 1, wherein the private branch exchange unit includes:

a public switch module for performing an office line incoming function of matching with the public switched telephone network and establishing a communication channel
10 with an office line terminal, an office line outgoing function of analyzing an office line number and transmitting the office line number through a dual tone multi frequency, and a communication line status monitoring function of releasing the communication channel when voice communication
15 is ended;

a subscriber switch module for matching with the extension network, analyzing dual tone multi frequency signals inputted from an extension telephone, setting a communication call to a corresponding extension telephone,
20 and connecting or releasing a communication call connected from the public switch module;

a VoIP (Voice over Internet Protocol) switch module for modulating analog voice signals, which have been received from the public switch module and the subscriber
25 switch module, into digital signals by means of VoIP technology so order to transmit the digital signals through the Internet protocol network; and

a switch controller for respectively controlling the public switch module, the subscriber switch module and the VoIP switch module, allocating a communication channel and transmitting/receiving various data through the allocated communication channel.

3. The Internet protocol-private branch exchange as claimed in claim 2, wherein the private branch exchange unit performs a voice communication function through the Internet protocol network by means of at least one VoIP protocol of a H.323, a session initiation protocol, a media gateway control protocol and a MEGACO (MEdia GAteway COntrol).

4. The Internet protocol-private branch exchange as claimed in claim 1, wherein the messenger server unit includes:

a web server unit for constructing and managing a wired website or a wireless website by means of at least one script language of a Professional HyperText Preprocessor, a perl and an active server page;

a database server unit for storing personal information including an ID, a password, an e-mail address and a wired/wireless telephone number of a user registered in the web server unit as a member, and performing a function of authenticating members, managing a website, managing a list of communication partners according to each member, and managing a current status according to each

member through inter-working with the web server unit; and
a messenger module unit for providing the instant messenger service to at least one communication terminal under a control of the central controller.

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5. The Internet protocol-private branch exchange as claimed in claim 4, wherein the communication terminal using the instant messenger service through the messenger module unit is a terminal having a display unit for displaying data transmitted/received through the instant messenger service,
10 and includes at least one of a wired/wireless computer and a wired/wireless Internet terminal which are connected to an Internet or an office line network.

15 6. An Internet terminal having an instant messenger function, the Internet terminal comprising:

a program storage unit for storing at least one operation system and instant messenger software;

a display unit for displaying data including an
20 instant message transmitted/received through the instant messenger software;

a data input unit for inputting an execution command or an execution end command of the instant messenger software or inputting data to be transmitted through the
25 executed instant messenger software;

a network interface card for transmitting the data inputted through the executed instant messenger software or

receiving data transmitted through a communication network;

a VoIP (Voice over Internet Protocol) chip for
encoding or decoding voice data or image data transmitted or
received through the communication network, transmitting or
5 reproducing the encoded or decoded data, processing a dual
tone multi frequency, and removing echo; and

a microprocessor for providing voice communication,
data transmission and an instant messenger service, and
temporarily holding the instant messenger service being
10 provided and generating/transmitting a voice communication
request signal when a key value for a voice communication
request is inputted while the instant messenger service is
being provided.

15 7. The Internet terminal as claimed in claim 6,
wherein the instant messenger software provides at least one
of a function of checking whether a communication partner is
in an online status, a function of providing a current
status of the communication partner, a function of
20 transmitting/receiving data, a function of providing voice
communication using VoIP technology, a function of
transmitting/receiving the instant message, a function of
notifying an e-mail reception, a function of authenticating
a user, and a function of providing a video chatting.

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8. The Internet terminal as claimed in claim 6,
wherein the VoIP chip stores at least one VoIP protocol of a

H.323, a session initiation protocol, a media gateway control protocol and a MEGACO (MEdia GAteway COntrol).

9. The Internet terminal as claimed in claim 6,
5 wherein the network interface card includes at least one of a wireless local area network card for wireless local area network communication and a wired local area network card for wired local area network communication.

10 10. An instant messenger service system for providing an instant messenger service by means of an Internet protocol-private branch exchange having an instant messenger function, the instant messenger service system comprising:

at least one communication terminal for storing at
15 least one instant messenger software, and using the instant messenger service through wired local area network communication and/or wireless local area network communication;

a communication network being connected to the
20 communication terminal, for supporting the wired local area network communication and/or the wireless local area network communication; and

the Internet protocol-private branch exchange for providing the instant messenger service and a voice
25 communication service between the communication terminals after being connected to the communication network, and providing the voice communication service by means of VoIP

(Voice over Internet Protocol) technology when a request of the voice communication service is received from a specific communication terminal receiving the instant messenger service.

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11. The instant messenger service system as claimed in claim 10, wherein the communication terminal includes at least one of a wired Internet terminal, a wireless Internet terminal, an Internet terminal for both wired and wireless communication, a personal digital assistant and a computer.

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12. The instant messenger service system as claimed in claim 10 or 11, wherein the communication network includes an access point, a hub and an Internet protocol network when the communication terminal includes at least one of the wireless Internet terminal, the Internet terminal for both wired and wireless communication and the personal digital assistant, and the communication network includes the Internet protocol network or a public switched telephone network when the communication terminal includes at least one of the wired Internet terminal, the Internet terminal for both wired and wireless communication and the computer.

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13. The instant messenger service system as claimed in claim 10, wherein the Internet protocol-private branch exchange includes a private branch exchange unit and a messenger server unit in order to perform a function of

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checking whether a communication partner is in an online status, providing a current status of the communication partner, transmitting/receiving data, providing voice communication using VoIP technology, transmitting/receiving
5 an instant message, notifying an e-mail reception, authenticating a user, and providing a video chatting, the private branch exchange unit including a public switch module, a subscriber switch module, a VoIP switch module and a switch controller, the messenger server unit including a
10 web server unit, a database server unit and a messenger module unit.

14. The instant messenger service system as claimed in claim 10, wherein the Internet protocol-private branch
15 exchange acquires and provides position information of each communication terminal by means of each media access control address information stored in wired local area network communication cards and/or wireless local area network communication cards installed in a wired Internet terminal,
20 a wireless Internet terminal, an Internet terminal for both wired and wireless communication, a personal digital assistant and a computer.

15. The instant messenger service system as claimed in
25 claim 10, wherein the Internet protocol-private branch exchange stores at least one VoIP protocol of a H.323, a session initiation protocol, a media gateway control

protocol and a MEGACO (MEdia GAteway COntrol), and provides a VoIP voice communication service to each communication terminal.